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EXAMINER

OMETZ, DAVID LOUIS

ART UNIT

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2653

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,907	MCGRATH, MICHAEL C.	
Examiner	Art Unit		
David L. Ometz	2653		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 February 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-40 and 51-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-7,9-16,21-23,27-32,35,51-53 and 56-59 is/are rejected.
- 7) Claim(s) 8,17-20,24-26,33, 34,36-40,54,55 and 60 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

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1. Applicant's election of Group I, claims 1-40, 51-60 in Paper No. 5 is acknowledged.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 31, 51, 56 are objected to because of the following informalities: in claim 31, line 1, "30" should be changed to --29--; in claim 51, line 9, --said-- should be inserted before "first base"; in claim 56, line 1, "as claimed," should be deleted. Appropriate correction is required.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-4, 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each of claims 2 and 21 set forth "said fastener aperture" which lacks antecedent basis, thus rendering the claims vague and indefinite.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 5, 9, 12, 51, 57-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Furay et al (US Pat 5995330).

With regard to claim 1, Furay et al shows a load/unload ramp assembly in figure 1 and 9 that is interconnectable with a base plate 3 of a disk drive 1, wherein said load/unload ramp assembly comprises:

a ramp body 14 that comprises:

a load/unload ramp 15; and

a first base plate attachment cantilever (slots 17 shown in figure 9 create 4 opposing, triangular shaped cantilevers) that comprises a first free end (the free end being directly under the head of fastener 16), wherein a fastener 16 can pass by said first base plate attachment cantilever such that a head of the fastener can exert a force on said first base plate attachment cantilever (when the fastener is screwed into the baseplate 3) to deflect said first base plate attachment cantilever toward the base plate 3 and direct said load/unload ramp assembly 14 into forcible engagement with the base plate when said load/unload ramp assembly is installed on the base plate.

With regard to claim 5, a load/unload ramp assembly, as claimed in Claim 1, further comprising a second base plate attachment cantilever (another of the 4 triangular cantilevers shown in figure 9) that comprises a second free end, wherein said first and second free ends are disposed in spaced relation to define at least part of a fastener aperture (the aperture through which fastener 16 extends), wherein the fastener 16 can pass through said fastener aperture and the head of the fastener can exert a force on said first and second base plate attachment cantilevers to deflect said first and second base plate attachment cantilevers toward the base plate so as to direct said load/unload ramp assembly into forcible engagement with the base plate when said load/unload ramp assembly is installed on the base plate.

With regard to claim 9, a load/unload ramp assembly, as claimed in Claim 1, wherein an upper surface of said first base plate attachment cantilever (that surface which the head of the fastener 16 contacts) is disposed in at least substantially horizontal relation when said load/unload ramp assembly is installed on the base plate.

With regard to claim 12, a load/unload ramp assembly, as claimed in Claim 1, wherein said ramp body is fabricated from plastic (see col. 6, line 46).

With regard to claim 51, Furay et al shows a disk drive in figures 1 and 9 comprising:
a base plate 3;

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a load/unload ramp assembly 14 disposed on said base plate 3, wherein said load/unload ramp assembly comprises: a ramp body that comprises: a load/unload ramp 15; and a first base plate attachment cantilever (triangular shape created by slots 17 in figure 9; and a fastener 16 engaged with said base plate 3, engaged with said first base plate attachment cantilever, and movable from a first position to a second position (i.e. a loose, untightened position to a fully tightened position), wherein first base attachment cantilever is in spaced relation to said base plate when said fastener is in said first position (i.e. a loose position, capable of jiggling around), and wherein said first base plate attachment cantilever is deflected into engagement with said base plate when said fastener is in said second position (i.e. the fully tightened position).

With regard to claim 57, a disk drive as claimed in Claim 51, wherein said first base plate attachment cantilever is at least generally wedge-shaped (triangular from figure 9).

With regard to claim 58, a disk drive as claimed in Claim 51, wherein said ramp body further comprises a second base plate attachment cantilever, wherein said fastener simultaneously engages both said first and second base plate attachment cantilevers, wherein said second base attachment cantilever is in spaced relation to said base plate when said fastener is in said first position, and wherein said second base plate attachment cantilever is deflected into engagement with said base plate when said fastener is in said second position.

With regard to claim 59, a disk drive, as claimed in Claim 58, wherein said first and second base plate attachment cantilevers are disposed in opposing relation and separated by a gap, wherein said fastener 16 comprises a head and a shaft, wherein said shaft extends through said gap to engage said base plate (i.e. the threaded portion of the fastener 16), and wherein said head of said fastener 16 is larger than said gap so as to simultaneously engage each of said first and second base plate attachment cantilevers (engages the tip of each of the triangular cantilevers as shown in figure 9).

7. Claims 1, 2, 9, 13-16, 21, 27, 35, 51-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Noda (US Pat Pub 2002/0039258).

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With regard to claim 1, Noda shows a load/unload ramp assembly in figures 3 and 4 that is interconnectable with a base plate 21 of a disk drive, wherein said load/unload ramp assembly comprises:

a ramp body 80/90 that comprises:

a load/unload ramp 80; and

a first base plate attachment cantilever 90 that comprises a first free end (the end affixed to base 21 by fastener 90a), wherein a fastener 90a can pass by said first base plate attachment cantilever such that a head of the fastener can exert a force on said first base plate attachment cantilever to deflect said first base plate attachment cantilever toward the base plate and direct said load/unload ramp assembly into forcible engagement (due to the tightening of the fastener 90a) with the base plate 21 when said load/unload ramp assembly is installed on the base plate.

With regard to claim 2, a load/unload ramp assembly as claimed in claim 1 wherein said ramp body further comprises at least one aperture shelf (the hole in cantilever 90 is countersunk as shown in figure 4, thereby creating an aperture shelf) that is disposed about said fastener aperture, wherein said at least one aperture shelf is recessed relative to an upper surface of said first base plate attachment cantilever (i.e. countersunk).

With regard to claim 9, a load/unload ramp assembly, as claimed in Claim 1, wherein an upper surface of said first base plate attachment cantilever 90 is disposed in at least substantially horizontal relation when said load/unload ramp assembly is installed on the base plate 21.

With regard to claim 13, Noda shows a disk drive in figures 3 and 4 comprising:

a base plate 21 comprising a first surface (the surface facing upward in figure 4) and a boss 21d projecting away from said first surface, wherein said boss 21d comprises a fastener receptacle;

a load/unload ramp assembly 80/90 disposed on said base plate 21, wherein said load/unload ramp assembly comprises: a ramp body that comprises: a load/unload ramp 80; and a first base plate attachment cantilever 90 that comprises a first free end (the end to which fastener 90a is attached), and a fastener 90a comprising a head and a shaft, wherein said shaft of said fastener extends past said first base plate attachment cantilever of said load/unload ramp assembly and is securely disposed within said fastener receptacle of said base plate such that said head of said fastener exerts a force on said first base plate attachment cantilever (due to the tightening of the fastener) to deflect said first base plate attachment cantilever toward said base plate to in turn

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force a bottom surface of said load/unload ramp assembly (bottom surface of 90) into engagement with said first surface of said base plate 21.

With regard to claim 14, a disk drive, as claimed in Claim 13, wherein said base plate further comprises first and second mounting pads disposed on said first surface of said base plate 21 (as broadly claimed the mounting pad 21b which mounts the cover 30 and the mounting pad which vertically supports the stator coils 23 shown in figure 4).

With regard to claim 15, a disk drive, as claimed in Claim 14, wherein said first and second mounting pads are recessed relative to said boss of said base plate (i.e. they are recessed from the outer circumference of the base plate 21, to which boss 21d is a part of the outer circumference).

With regard to claim 16, a disk drive, as claimed in Claim 14, wherein said first and second mounting pads are disposed in opposing relation (they oppose one another with bearings 25 therebetween).

With regard to claim 21, a disk drive, as claimed in Claim 13, wherein said ramp body further comprises at least one aperture shelf (i.e. the countersunk portion for the head of fastener 90a in figure 4) that is disposed about said fastener aperture, wherein said at least one aperture shelf is recessed relative to an upper surface of said first base plate attachment cantilever 90.

With regard to claim 27, a disk drive, as claimed in Claim 13, wherein an upper surface of said first base plate attachment cantilever is substantially parallel with said first surface of said base plate.

With regard to claim 35, wherein a lower surface of the head of the fastener deflects the first base plate attachment cantilever 90 into forcible engagement with underlying portions of said first surface of said base plate 21.

With regard to claim 51, Noda shows a disk drive in figures 3 and 4 comprising:
a base plate 21;
a load/unload ramp assembly 80/90 disposed on said base plate, wherein said load/unload ramp assembly comprises: a ramp body that comprises: a load/unload ramp 80; and a first base plate attachment cantilever 90; and a fastener 90a engaged with said base plate 21, engaged with said first base plate attachment cantilever 90, and movable from a first position to a second position (loose position to a tightened position), wherein first base attachment cantilever 90 is in spaced

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relation to said base plate when said fastener is in said first position (i.e. loose and jiggly), and wherein said first base plate attachment cantilever is deflected into engagement with said base plate when said fastener is in said second position (i.e. the fully tightened position).

With regard to claim 52, a disk drive, as claimed in Claim 51, wherein said base plate comprises a raised boss 21d, wherein said raised boss 21d comprises a fastener receptacle, wherein said fastener 90a extends within said fastener receptacle.

With regard to claim 53, a disk drive, as claimed in Claim 52, wherein said first base plate attachment cantilever 90 extends toward, but not to, a sidewall of said raised boss (i.e. the vertical sides of the boss 21d are never engaged with the underside of the cantilever 90).

8. Claims 1, 6, 7, 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by

Angellotti et al (US Pat 6201665).

With regard to claim 1, Angellotti et al shows a load/unload ramp assembly in figures 1, 2, 8 and 9 that is interconnectable with a base plate 34' of a disk drive, wherein said load/unload ramp assembly comprises:

a ramp body 40' that comprises:

a load/unload ramp 42a; and

a first base plate attachment cantilever 58a' that comprises a first free end , wherein a fastener (protrusion 76) can pass by said first base plate attachment cantilever 58a' such that a head (i.e. the upper portion of protrusion fastener 76 shown in figure 8) of the fastener can exert a force on said first base plate attachment cantilever 58a' to deflect said first base plate attachment cantilever toward the base plate and direct said load/unload ramp assembly into forcible engagement (i.e. a snap-fit) with the base plate 34' when said load/unload ramp assembly is installed on the base plate 34'.

With regard to claim 6, a load/unload ramp assembly, as claimed in Claim 1, wherein said first base plate attachment cantilever 58a' comprises at least one fastener head contact protrusion 87a (figure 9) disposed on an upper surface of said first base plate attachment cantilever.

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With regard to claim 7, a load/-unload ramp assembly, as claimed in Claim 6, wherein each said fastener head contact protrusion on said first base plate attachment cantilever is disposed at least generally at said first free end.

With regard to claim 9, a load/unload ramp assembly, as claimed in Claim 1, wherein an upper surface of said first base plate attachment cantilever is disposed in at least substantially horizontal relation when said load/unload ramp assembly is installed on the base plate 34'.

With regard to claim 10, a load/unload ramp assembly, as claimed in Claim 1, wherein said first base plate attachment cantilever 58a' comprises a lower surface, wherein said lower surface of said first base plate attachment cantilever extends at least generally upwardly (i.e. the portion 52a in figure 9) progressing toward said first free end of said first base plate attachment cantilever.

With regard to claim 11, a load/unload ramp assembly, as claimed in Claim 1, wherein said ramp body further comprises at least one base plate alignment post (i.e. as broadly claimed the left and right sides of 40' shown in figure 8 which help to align the ramp assembly 40' with the sides of the base plate 34').

With regard to claim 12, a load/unload ramp assembly, as claimed in Claim 1, wherein said ramp body is fabricated from plastic (see col. 5, line 60).

9. Claims 1, 9-13, 27, 28, 35, 51-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Reinhart et al (US Pat 6181528).

With regard to claim 1, Reinhart et al shows a load/unload ramp assembly in figures 6 and 7 that is interconnectable with a base plate 84 of a disk drive, wherein said load/unload ramp assembly comprises:

a ramp body 81 that comprises:

a load/unload ramp; and

a first base plate attachment cantilever 54 that comprises a first free end, wherein a fastener (screw interacting with hole 59 and hole 88 in the base plate 84) can pass by said first base plate attachment cantilever such that a head of the fastener (i.e. the head of the screw) can exert a force on said first base plate attachment cantilever to deflect said first base plate attachment cantilever

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toward the base plate and direct said load/unload ramp assembly into forcible engagement with the base plate when said load/unload ramp assembly is installed on the base plate.

With regard to claim 9, a load/unload ramp assembly, as claimed in Claim 1, wherein an upper surface of said first base plate attachment cantilever (the upper surface of cantilever 54 shown in figure 4) is disposed in at least substantially horizontal relation when said load/unload ramp assembly is installed on the base plate.

With regard to claim 10, a load/unload ramp assembly, as claimed in Claim 1, wherein said first base plate attachment cantilever 54 comprises a lower surface (shown in figure 7), wherein said lower surface of said first base plate attachment cantilever extends at least generally upwardly (due to the slot cut-out 76 in figure 7) progressing toward said first free end of said first base plate attachment cantilever.

With regard to claim 11, a load/unload ramp assembly, as claimed in Claim 1, wherein said ramp body further comprises at least one base plate alignment post (i.e. the circular boss portion shown by reference numeral 78 in figure 7).

With regard to claim 12, a load/unload ramp assembly, as claimed in Claim 1, wherein said ramp body is fabricated from plastic (see col. 3, line 62).

With regard to claim 13, Reinhart et al shows a disk drive in figures 6 and 7 comprising: a base plate 84 comprising a first surface and a boss (i.e. the raised portion formed around hole 88 in figure 6) projecting away from said first surface, wherein said boss comprises a fastener receptacle 88;

a load/unload ramp assembly disposed on said base plate, wherein said load/unload ramp assembly comprises: a ramp body 81 that comprises: a load/unload ramp; and a first base plate attachment cantilever 54 that comprises a first free end, and a fastener (screw) comprising a head and a shaft, wherein said shaft of said fastener extends past said first base plate attachment cantilever of said load/unload ramp assembly and is securely disposed within said fastener receptacle 88 of said base plate such that said head of said fastener exerts a force on said first base plate attachment cantilever 54 (during tightening of the screw) to deflect said first base plate attachment cantilever toward said base plate to in turn force a bottom surface of said load/unload ramp assembly into engagement with said first surface of said base plate.

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With regard to claim 27, a disk drive, as claimed in Claim 13, wherein an upper surface of said first base plate attachment cantilever 54 is substantially parallel with said first surface of said base plate 84.

With regard to claim 28, a disk drive as claimed in Claim 13, wherein said first base plate attachment cantilever 54 comprises a lower surface (shown in figure 7), wherein said lower surface of said first base plate attachment cantilever extends at least generally upwardly (due to the slot cut-out 76) progressing toward said first free end of said first base plate attachment cantilever.

With regard to claim 51, Reinhart et al shows a disk drive comprising:
a base plate 84;
a load/unload ramp assembly 81 disposed on said base plate, wherein said load/unload ramp assembly comprises: a ramp body that comprises: a load/unload ramp; and a first base plate attachment cantilever 54; and a fastener (screw) engaged with said base plate (at hole 88), engaged with said first base plate attachment cantilever (at hole 59), and movable from a first position (untightened) to a second position (fully tightened), wherein said first base attachment cantilever 54 is in spaced relation to said base plate when said fastener is in said first position (i.e. loose and jiggly), and wherein said first base plate attachment cantilever is deflected into engagement with said base plate when said fastener is in said second position (i.e. the fully tightened position).

With regard to claim 52, a disk drive, as claimed in Claim 51, wherein said base plate comprises a raised boss (shown around hole 88), wherein said raised boss comprises a fastener receptacle 88, wherein said fastener (screw) extends within said fastener receptacle 88.

With regard to claim 53, a disk drive, as claimed in Claim 52, wherein said first base plate attachment cantilever 54 extends toward, but not to, a sidewall of said raised boss.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furay et al in view of Noda. Furay et al shows a ramp for use in a disk drive wherein the ramp assembly is attached to the base plate through a screw 16. From figure 9 of Furay et al, it does not appear that the triangular cantilevers (4 of them) formed by the cutouts 17 are countersunk so that the fastener 16 is flush with the ramp assembly 14. Therefore, Furay et al does not show the claimed at least one aperture shelf that is disposed about said fastener aperture, wherein said at least one aperture shelf is recessed relative to an upper surface of said first base plate attachment cantilever. Noda shows a ramp assembly in figure 4 that has a cantilever 90 with a fastener opening that is countersunk so that the fastener 90a is flush with the top of the cantilever 90. By countersinking the portions of the cantilevers of Furay et al, the claimed feature of the aperture shelves would be met. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to countersink the cantilevers of Furay et al as taught by Noda as doing this would permit the screw fastener to be flush with the upper surface of the cantilevers, thereby negating any height concerns or clearance problems with the differing components of the drive located near the ramp assembly. Secondly, countersinking screws is old and well known in many different arts, and is commonly used to provide a pleasing aesthetic look to the assembly of the device. No unobvious result is seen to exist in merely countersinking the screw of Furay et al, which thereby results in meeting the claimed limitations of claims 2-4.

12. Claims 11, 29-32, 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noda in view of Furay et al. Noda shows a ramp assembly in a disk drive wherein the cantilever 90 in figure 4 is attached to a base plate 21 as noted, *supra*. However, Noda does not show

wherein said base plate comprises first and second alignment holes and said ramp body comprises first and second alignment pins disposed within said first and second alignment holes, respectively. Furay et al shows a ramp assembly in figure 15 and 19 that has a ramp body 166 with alignment pins 178/179 that cooperate with respective holes in the base plate so as to position the ramp assembly accurately and precisely on the base plate (see col. 16, lines 27-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the cantilever arm of Noda with pins for interacting with alignment holes in the base plate as taught by Furay et al as doing this would precisely position the cantilever in the disk drive without the need for external jigs or alignment tools.

13. Claims 22 and 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. Claims 8, 17-20, 24-26, 33, 34, 36-40, 54, 55, 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited both show disk drive ramps with various methods of attaching the ramp to the base of the disk drive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Ometz whose telephone number is (703) 308-1296. The examiner can normally be reached on M-W, 6:00-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David L. Ometz
Primary Examiner
Art Unit 2653

DLO
3/24/04